IN THE CLAIMS

1. (Currently Amended) A gas-flow measuring instrument comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage and

said third passage includes a curve portion to change a flow direction of said intake gas in said bypass passage to flow said intake gas upstream with respect to said mainstream direction.

2. (Original) A gas-flow measuring instrument according to Claim 1, further comprising a temperature sensing resistor for compensating temperature of sucked gas and a temperature sensor for sensing temperature of sucked gas,

wherein the flow measuring element comprising a heating resistor, the temperature sensing resister, and the temperature sensor are arranged in the second passage.

3. (Original) A gas-flow measuring instrument according to Claim 1, wherein the bypass passage further comprises a detour constructed by joining the third passage to the first passage and a detour constructed by joining the third passage to the second passage, and

wherein an outside contour wall of the bypass passage of at least one of the both detours is continuously curved.

4. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 1~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

wherein the detour constructed by joining the third passage to the first passage is provided with a vent formed on the outside contour wall of the bypass passage for connecting the bypass passage to the intake gas passage.

5. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 1~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side

and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

wherein an outside contour surface in a detouring direction of the bypass passage of at least one of the first passage, the second passage, and the third passage is provided with a ditch arranged substantially in parallel with an axial direction of the bypass passage.

6. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 5~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

wherein a section of the bypass passage perpendicular to the axial direction of the bypass passage is substantially rectangular, and both sidewalls of the ditch arranged substantially in parallel with the axial direction of the bypass passage on the outside contour surface of the bypass passage in the detouring direction are not in parallel with each other, so that an angle between the both sidewalls of the ditch ranges from 60° to 120°.

7. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 5~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

wherein a section of the bypass passage perpendicular to the axial direction of the bypass passage is substantially rectangular, and the ditches arranged on the outside contour

surface of the bypass passage in the detouring direction are respectively located in vicinities of junctional regions between the outside contour surface and both sidewalls arranged in parallel with the intake gas passage and constituting the bypass passage, and sidewalls of the ditches located adjacent to the center of the bypass passage are inclined to the both sidewalls at an angle of 30° to 60°.

8. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 5~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the

upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

wherein a section of the bypass passage perpendicular to the axial direction of the bypass passage is substantially rectangular, and the outside contour wall of the bypass passage in the detouring direction and junctional regions between bypass passage both sidewalls and the outside contour wall are curved surfaces.

9. (Currently Amended) A gas-flow measuring instrument ~~according to Claim 1~~, comprising:

a main passage having an intake gas passage for sucking gas;

a bypass passage into which part of gas flowing through the main passage flows;

a flow measuring element disposed within the bypass passage for sensing a gas flow; and

an electronic circuit electrically connected to the flow measuring element,

wherein the bypass passage comprises a bypass-passage inlet opened to an upstream side in a gas mainstream direction of the intake gas passage, a first passage arranged from the upstream-side of the intake gas passage to the downstream side and inclined relative to the mainstream direction, a second passage arranged from the downstream-side to the upstream side and having the flow measuring element arranged therein, a third passage connecting the first passage to the second passage in the downstream-side of the mainstream direction, and a bypass-passage outlet arranged in the second passage,

further comprising a partition arranged in the vicinity of a junctional region between the first passage and the third passage for separating the bypass passage into external and internal peripheral directions relative to the detouring direction of the bypass passage.

10. (Original) A gas-flow measuring instrument according to Claim 1, further comprising a venturi arranged in between the vicinity of a junctional region between the second passage and the third passage and the vicinity of the flow measuring element.